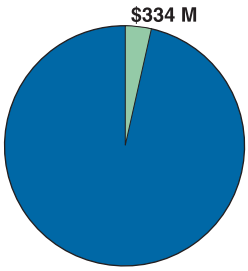
Goal 6 FY 2001 Obligations



Note: EPA FY 2001 Total Obligations were $9,007 million

GOAL 6: REDUCTION OF GLOBAL AND CROSS-BORDER ENVIRONMENTAL RISKS

The United States will lead other nations in successful, multilateral efforts to reduce significant risks to human health and ecosystems from climate change, stratospheric ozone depletion, and other hazards of international concern.

PROGRESS TOWARD STRATEGIC GOAL AND OBJECTIVES

EPA is responsible for many important international functions that protect and preserve the global environment. Through its domestic, bilateral, and multilateral efforts in FY 2001 and in past years, EPA has made significant progress toward its goal of reducing global and cross-border risks to human health and the environment.

U.S. border regions are of particular concern to the Agency. EPA has reduced and mitigated hazards to some 7.6 million residents through improved wastewater treatment, waste disposal, and air quality along the United States/Mexico border; remediated a total of 1.7 million cubic yards of contaminated sediments in the Great Lakes region; and prevented more than 10,000 cubic meters of high- and low-level liquid radioactive waste from being dumped annually into the Arctic Ocean on the Alaskan border.

Climate change and depletion of the ozone layer are both important areas of focus for the Agency. EPA works to limit stratospheric ozone layer depletion by restricting domestic consumption of class II hydrochlorofluorocarbons (HCFCs) and by exempting the production and import of class I chlorofluorocarbons (CFCs), both ozone-depleting substances (ODS). Additionally, EPA is on target to achieve the strategic objective to reduce U.S. greenhouse gas (GHG) emissions and slow climate change through voluntary programs. Since the mid-1990s, these programs have reduced U.S. GHG emissions by more than 240 million metric tons of carbon equivalent (MMTCE), while saving families and businesses an estimated $24 billion on energy bills and preventing roughly 550,000 tons of smog-forming nitrogen oxide (NO_x) from polluting the air.

EPA is also making progress in other areas of international concern, such as toxics. EPA reduced the risk to human health and ecosystems from toxics by negotiating and signing the Stockholm Convention on Persistent Organic Pollutants in May 2001. In addition, EPA helped other countries, localities, and organizations apply cleaner and more cost-effective environmental practices through the adoption of new laws or policies; increased public outreach; and enhanced environmental planning, analysis, and enforcement capabilities.

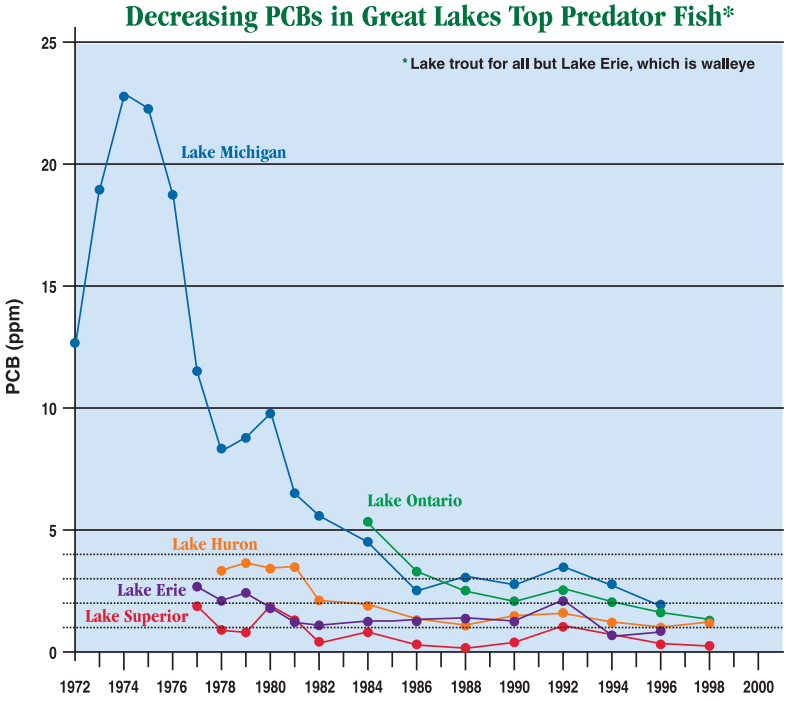
FY 2001 PERFORMANCE

In FY 2001 EPA reduced transboundary threats to human health and shared ecosystems in North America, particularly focusing on the Great Lakes, the Mexican border, and the Arctic Ocean on the Alaskan border. On the Canadian border, contaminated sediments are one of two main sources of Great Lakes fish and wildlife contamination, impairing more than 2,000 miles (20 percent) of shoreline and contributing to fish consumption advisories throughout the Great Lakes. According to data reported in FY 2001, the Agency and its partners removed or contained more than 400,000 cubic yards of contaminated sediments in FY 2000, bringing the 4-year cumulative total to 1.7 million cubic yards. The immediate benefit of contaminated sediment remediation is that a large amount of toxic pollution is physically removed from the environment. A short-term result is a more diverse and less contaminated community of small organisms at the base of the food

chain. Over the longer term, water quality will improve and fish will be less contaminated and safer to eat.

PCB contamination is a significant cause of Great Lakes fish advisories. Although there have been major reductions since the 1970s in the levels of PCBs in Great Lakes fish, levels are still well beyond the Health Protection Value (HPV) of 0.05 parts per million (ppm) agreed to by the Great Lakes States—a level at which even the most sensitive segments of the population, such as pregnant women and children, can safely eat unlimited amounts of fish. For example, the most recently reported data from 1998 show that mean concentrations of PCBs in Lake Michigan coho salmon fillets are approximately 0.5 ppm or 10 times above the HPV.

Decreasing PCBs in Great Lakes Top Predator Fish*



Along the Mexican border, EPA continues its work with the Border Environment Cooperation Commission (BECC) and the North American Development Bank to evaluate environmental needs and facilitate the construction of infrastructure. Through the end of FY 2001, 43 BECC-certified projects had been built or were being built in the border area, ultimately serving about 7.6 million border residents with improved wastewater treatment, waste disposal, and air quality. A total of more than 528,000 residents along the Mexican border will be protected from health risks, beach pollution, and damaged ecosystems as a result of improved water and wastewater sanitation systems funded through FY 2001.

To prevent the illegal dumping of radioactive waste into the Arctic Ocean and Sea of Japan, EPA completed another successful project in FY 2001, the Murmansk Initiative. This partnership with Russia and Norway placed a new radioactive waste facility in Russia that will prevent more than 10,000 cubic meters of high- and low-level liquid radioactive waste annually from being dumped into the Arctic Ocean and the Sea of Japan, protecting both citizens and land in Alaska.

In addition to work on the U.S. border, EPA provides technical assistance to foreign and domestic governments to address shared global threats. In FY 2001 EPA assisted 10 strategically selected developing countries in Asia, Africa, Latin America, and Eastern Europe, helping them incorporate climate change mitigation measures into their local priorities.

Domestically many of EPA's climate protection programs have resulted in substantial savings in energy use and energy bills that will be realized over the next decade. In results reported in FY 2001, actions taken through EPA's voluntary programs, such as ENERGY STAR, have saved consumers and businesses more than $8 billion in energy costs and substantially reduced energy consumption (by 74 billion kilowatt-hours) and carbon dioxide (CO_2) and NO_x emissions. EPA's methane programs reduced methane emissions to well below 1990 levels in FY 2000 and are projected to maintain emissions below 1990 levels through 2010 and beyond (**http://www.epa.gov/oar/climate**).

Based on data made available in FY 2001, the Agency's activities have resulted in a reduction of approximately 60 MMTCE from 1990 projected levels of FY 2000 GHG emissions. Although total U.S. GHG emissions rose in FY 2000 to approximately 1,900 MMTCE, EPA partnerships have achieved a 20 percent reduction in expected growth from 1990 levels. Because equipment promoted through EPA's climate programs often lasts decades or more, these investments will continue to deliver environmental and economic benefits through 2010 and beyond. These programs continue to be highly

cost-effective approaches for delivering environmental benefits across the country. For every dollar EPA has spent, these programs have reduced GHG emissions by more than 1.0 MMTCE (3.67 tons of CO_2) and delivered more than $75 in energy bill savings (based on a cumulative reduction since 1995).

Another part of the Agency's climate protection program is in the transportation sector. As part of the Partnership for a New Generation of Vehicles program, EPA demonstrated 80 miles per gallon (gasoline equivalent) fuel efficiency on a mid-size research chassis using a state-of-the-art diesel engine and an EPA-invented, patented, and developed hybrid drivetrain. To help consumers make choices that are better for the environment, EPA developed the on-line Green Vehicle Guide. This web site (**http://www.epa.gov/autoemissions/index.htm**) addresses both fuel economy and criteria pollutant emissions to help consumers understand the environmental consequences of their new vehicle purchasing decisions. In addition, Commuter Choice, a voluntary business-government partnership that promotes employer-provided commuter benefits, has provided immediate reductions in both criteria pollutants and climate change pollutants. The national program was developed to improve traffic flow and air quality by encouraging U.S. companies to offer employees alternatives to driving to work alone. The program aims to reach 5 percent of all U.S. employees (approximately 7 million) by 2010, reducing greenhouse gases by 6 MMTCE, cutting NO_x emissions by 25,000 tons, and saving commuters 715 million gallons of fuel annually. In FY 2001 alone EPA signed more than 200 employers covering about 500,000 employees at 346 workplaces in 19 states. The commuter reduction programs these employers provide are estimated to save approximately 50 million gallons of fuel per year, with air pollution reductions equivalent to removing up to 100,000 cars from the road annually (**http://www.epa.gov/otaq/transp/comchoic/ccweb.htm**).

EPA has focused much attention on the global threat of stratospheric ozone depletion. CFCs and halons are both powerful stratospheric ODS, and the projected "business as usual" use in developing countries could swamp reductions and investments already made in the United States, with serious public health implications for people across the globe (e.g., skin cancer). In FY 2001, through the Multilateral Fund established under the Montreal Protocol, the United States provided assistance to 76 countries to help eliminate the developing countries' production and use of ODS. Since the fund's inception the United States has helped fund 3,500 projects and activities in 124 countries around the world. Reported consumption of CFCs and halons for all developing countries was about 235,000 metric tons at its highest point. EPA estimates that when these projects are fully implemented, 150,000 metric tons of these ODS will be eliminated. Domestically in FY 2001 the United States met its commitment to reduce methyl bromide production and imports by 50 percent from the 1991 baseline and listed 31 new alternatives to ODS for use in a variety of applications.

EPA continues to fulfill its mission to protect human health from a depleted ozone layer through its SunWise School Program, which educates children ages 5–12 on the risks associated with ultraviolet (UV) and sun exposure as a result of a depleted ozone layer. Learning about sun protection has an immediate and long-term benefit to the public because 80 percent of one's lifetime exposure to UV occurs before age 18. In 2001 SunWise reached an additional 9,165 students in 180 schools across the country, a 61 percent increase in program participation. The program aims to reach 17,000 schools by 2005 (**http://www.epa.gov/sunwise**).

The United States participates in a number of treaties and multilateral agreements to address global threats. In May 2001 the United States signed the Stockholm Convention on Persistent Organic Pollutants (POPs). Under this Convention, countries committed to reduce or eliminate the production, use, or release of the 12 POPs of greatest concern to the global community, such as DDT, PCBs, and dioxins, and established a mechanism to add further chemicals to the Convention in the future. Because these dangerous chemicals circulate around the globe, they can cause health problems in the United States regardless of where they are produced. Ratification of the agreement by 92 countries is needed for it to go into effect, but countries have already started to eliminate or decrease the use of the 12 chemicals identified. The United States is making legislative changes to both the Federal Insecticide, Fungicide, and Rodenticide Act and the Toxic Substances Control Act to fulfill its commitments under the new agreement. EPA's goal is to have the United

THE "DIRTY DOZEN": POPS RESTRICTED BY THE STOCKHOLM CONVENTION

Aldrin	Mirex
Dieldrin	Dichlorodiphenyltrichloroethane (DDT)
Endrin	Hexachlorobenzene
Chlordane	Polychlorinated biphenyl (PCBs)
Heptachlor	Dioxins
Toxaphene	Furans

States ratify the agreement by September 2002, the date of the World Summit on Sustainable Development.

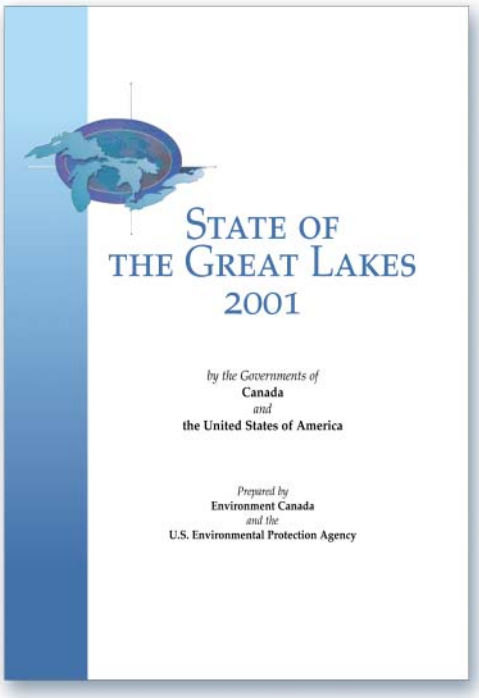
EPA was involved in negotiations for several other significant treaties and international agreements in FY 2001. For example, EPA led the negotiations on the Global Anti-Fouling Treaty, resulting in a worldwide ban on the application of tributyltin (TBT) on ships effective January 2003. TBT is considered one of the most destructive chemicals ever introduced to the marine environment, and its ban will protect oceans and marine life in the United States and abroad. Another significant accomplishment was the landmark Free Trade agreement signed by the United States and Jordan, the first to include environmental provisions in the text. In this agreement, the two countries agreed not to lower environmental standards to attract increased trade. In another accomplishment facilitating international cooperation, the Globally Harmonized Classification System was in place at the end of 2001. This is the first system for classifying physical/chemical, health, and environmental hazards with international agreement.

Program Evaluation

In FY 2001 EPA and Environment Canada, with input from more than 50 other governmental and nongovernmental entities, published the *State of the Great Lakes 2001* report (**http://www.binational.net/sogl2001/index.html**). The report uses data from 33 separate indicators to assess the health of the lakes, a total of some 80 indicators have been proposed. The review concludes that conditions in the Great Lakes range from "good" for the quality of drinking water to "poor" for the impacts of invasive species. About 25 percent of the indicators showed good or improving conditions, 25 percent showed poor or deteriorating conditions, and the rest demonstrated mixed results. Although the review found that there has been some progress in cleaning up contaminants, it also identified continuing threats from invasive species; atmospheric deposition from sources outside the basin, confounding efforts to eliminate contaminants; and urban sprawl, threatening high-quality natural areas, rare species, farmland, and open space. The report calls invasive species "the greatest biological threat to Great Lakes Aquatic ecosystems." As a result of this report and other factors, EPA plans to enhance its work in invasive species. Participants also identified areas for increased management attention, including the need for further indicator development and testing; establishment of targets; consistent monitoring or data collection techniques; improved data quality and information management; and a commitment to data collection, interpretation, and reporting on selected indicators.

Research Contributions

As part of the ongoing U.S. Global Change Research Program's National Assessment process, EPA published the final Human Health Sector Assessment, Mid-Atlantic Regional Assessment, and Great Lakes Regional Assessment reports in FY 2001. The Gulf Coast Regional Assessment is expected to be completed in FY 2002. The findings of these regional and sector assessments will be used



to identify the potential consequences of climate change in the United States. They also will provide stakeholders and policy makers with information on the potential risks and opportunities presented by climate change and suggest options for adapting to the changes.

Other assessment efforts in FY 2001 included two stakeholder workshops in the Great Lakes Region that focused on how climate changes are affecting the lakes' commercial shipping and fishing, energy production, municipal water supply, and recreational boating. The workshops determined that as a result of climate changes over the past few years, people in the Great Lakes Region have experienced what the Regional Assessment report says might be more common conditions in the future: warmer temperatures and increased evaporation have caused water levels to drop, causing serious problems for the commercial shipping industry and recreational boaters. Additional workshops are planned to focus on land ecology, agriculture, and winter recreation.

ENERGY STAR PARTNERSHIPS

ENERGY STAR is an EPA public awareness campaign initiated in 1992 to promote energy efficiency via "energy-saving" products and practices to consumers. Through the ENERGY STAR program, EPA has developed strong partnerships with organizations that sponsor regional/local energy efficiency programs (such as state governments, energy offices, departments of natural resources, governors' offices and regulated utilities). Currently 130 such organizations, serving 50 percent of U.S. households, are partnering with ENERGY STAR to deliver the message to their constituents. In FY 2001 State Energy Offices in Illinois, Iowa, Michigan, Minnesota, Ohio, and Wisconsin established statewide goals for benchmarking building performance with ENERGY STAR. In addition, California, New York, and Wisconsin have moved forward to integrate ENERGY STAR into their commercial energy efficiency programs. Currently the national energy performance rating system is being used by more than 100 school districts nationwide, which have collectively rated more than 3,400 school buildings, or approximately 7 percent of the total K–12 floor space.

STATE AND TRIBAL PARTNER CONTRIBUTIONS

EPA has many important and productive partnerships with states and tribes. For example, the State and Local Climate Outreach Partnership Program works closely with states and cities across the country to identify cost-effective measures and opportunities to reduce emissions of GHGs. This year, EPA facilitated state and local government-led efforts to inventory local GHG emissions, resulting in an additional 25 states and 41 cities measuring or mitigating their GHGs. To date EPA has 41 state partners and several hundred local partners that have collectively identified 17 MMTCE of potential cost-effective reductions and $7.9 billion in energy savings.

In an important tribal partnership, EPA sought, raised, and incorporated tribal concerns into the negotiations for the Stockholm Convention on POPs. Representatives from the Yupik, Inupiat, Inuit, and Gwich'in Tribes were present as observers at the Convention signing ceremony in Stockholm, Sweden.

The Arctic Cord Blood Monitoring Program, developed in response to Alaska Natives' concerns about the effects of POPs and heavy metals in native subsistence foods, is a tribal partnership with an international emphasis. This program monitors the levels and trends of selected heavy metals and POPs, including PCBs, in umbilical cord blood and maternal blood of eight primary indigenous groups along the coast of Alaska. The initial focus is on the correlation between POP levels and chronic sickness of newborns because studies indicate high levels of POP contamination in newborns. The study is being expanded to improve statistics and include a wider geographic area.

ASSESSMENTS OF IMPACTS OF FY 2001 PERFORMANCE ON THE FY 2002 ANNUAL PERFORMANCE PLAN

EPA is making significant adjustments to its Great Lakes program based on FY 2001 performance. Preliminary FY 2001 data show dissolved oxygen concentrations in Lake Erie's central basin to be near the worst observed during the past 5 years. Despite international success in reducing phosphorus loadings, phosphorus concentrations (observed through United States and Canadian monitoring) are increasing. Reducing phosphorus loads was expected

to reduce algae production and decomposition (which removes oxygen from the water) and result in higher dissolved oxygen concentrations. To help understand this puzzling challenge, EPA has added a new program measure for internal management purposes: limited or no depletion in the long-term Lake Erie dissolved oxygen trend.

Following the signature of the POPs Convention and the finalization of the Global Anti-Fouling Treaty, EPA is defining what legislative and regulatory actions will be necessary to give full effect to the agreements. The Agency has established new FY 2002 performance measures for ratification of the Global Anti-Fouling Treaty and projects and activities to help developing countries implement the POPs Convention.

PERFORMANCE DATA CHART

The following performance data chart includes performance results for the FY 2001 Annual Performance Goals (APGs) that support Goal 6. The performance chart reflects the Agency's 1997 Strategic Plan goals and objectives with which FY 2001 APGs are associated. Relevant FY 2000 and FY 1999 APGs are included for ease in comparing performance. Data quality information for Goal 6 can be found on pages B-22 to B-29 of Appendix B, "Data Quality." Additionally, the chart provides results for FY 2000 and FY 1999 APGs for which data were not available when the FY 2000 report was published, as well as for FY 2000 APGs that are not associated with any FY 2001 APGs.

Summary of FY 2001 Performance

9 Goal Met	0 Goal Not Met	4 Data Lag

Goal 6: Reduction of Global and Cross-Border Risks

Annual Performance Goals and Measures
FY 1999–FY 2001 Results

By 2005, Reduce Transboundary Threats to Human Health and Shared Ecosystems in North America Consistent With Our Bilateral and Multilateral Treaty Obligations in These Areas, As Well As Our Trust Responsibility to Tribes.

Progress Toward Strategic Objective: EPA made significant progress in FY 2001 toward achieving this objective by reducing threats to human health and shared ecosystems along the Mexican and Canadian borders. Improved water and wastewater services were provided along the Mexican border through the Border Environmental Infrastructure Fund, and three air monitoring networks were established in three of seven areas currently failing to meet national air quality standards. Along the Canadian border contaminated sediments were removed or contained in Fox River/Green Bay, Wisconsin; Manistique River, Michigan; Grand Calument River/Indiana Harbor Canal, Indiana; and Saginaw River/Bay, Michigan, thereby removing large amounts of toxic pollutants from the environment. Completion of the Murmansk Initiative, a new radioactive waste facility in Russia, will prevent illegal dumping of radioactive waste into the Arctic Ocean and Sea of Japan. EPA is on track to meet this objective.

APG 37		Planned	Actual
FY 2001	**Increase the number of residents in the Mexico border area who are protected from health risks, beach pollution and damaged ecosystems from nonexistent and failing water and wastewater treatment infrastructure by providing improved water and wastewater service. Goal Met.**		
	Performance Measures		
	- Number of additional people in the Mexico border area protected from health risks because of adequate water/wastewater sanitation systems funded through the Border Environmental Infrastructure Fund.	**600,000**	**576,405**
FY 2000	*Five additional water/wastewater projects along the Mexican border will be certified for design-construction for a cumulative total of 30 projects. Goal Met.*		*10*
FY 1999	*One additional water/wastewater project along the Mexican border will be certified for design construction. Goal Met.*		*9*

FY 2001 Result: Along the U.S.-Mexican border, communities live side-by-side, sharing both the benefits of rapid urban and industrial growth and the environmental problems associated with a history of inadequate environmental infrastructure. To protect citizens on both sides of the border from health risks, beach pollution, and damaged ecosystems from nonexistent and failing water and wastewater treatment infrastructure, EPA provided improved water and wastewater services to 576,405 residents in the Mexican border area through 12 projects funded through the Border Environmental Infrastructure Fund, which is funded solely by EPA. EPA also provided technical assistance for the water and wastewater projects. Focus this year was shifted to areas with smaller populations that have less access to

funding sources for wastewater projects, rather than the previous focus on larger areas that have more opportunities to locate wastewater treatment funding. Although the number of people served was less than the FY 2001 target, more projects were completed than in FY 2000 and areas with greater need for wastewater treatment were served. There are approximately 12.6 million residents in the entire Mexican border area.

APG 38		Planned	Actual
FY 2001	**Great Lakes ecosystem components will improve, including progress on fish contaminants, beach toxics, air toxics, and trophic status. Data Lag.**		**data available in FY 2002**
	Performance Measures		
	- Concentration trends of toxics (PCBs) in Great Lakes top predator fish.	**declining trend**	
	- Concentration trends of toxic chemicals in the air.	**declining trend**	
	- Trophic status and phosphorus concentrations in the Great Lakes.	**improving trend**	
FY 2000	*Measurable improvements in Great Lakes ecosystem components. Goal Met.*		
	Performance Measures		
	- Indicator indices.		*10*
	- Model predictions for toxics reductions.		*5*

FY 2001 Result: Final data will be available in 2002.

By 2000 and Beyond, U.S. Greenhouse Gas Emissions Will Be Reduced to Levels Consistent With International Commitments Agreed Upon Under the Framework Convention on Climate Change, Building on Initial Efforts Under the Climate Change Action Plan.

Progress Toward Strategic Objective: EPA is on target to achieve this objective. Since the mid-1990s the Agency's voluntary programs have reduced U.S. greenhouse gas emissions by more than 240 million metric tons carbon equivalent (MMTCE) while saving families and businesses an estimated $24 billion on their energy bills. This reduction is from 1990 estimates for expected GHG emissions through FY 2000. EPA's climate protection programs have locked in substantial energy and environmental benefits for the next decade. Because many of the investments promoted through EPA's climate programs involve energy-efficient equipment with lifetimes of decades or more, the investments made through 2001 will continue to deliver environmental and economic benefits through 2010 and beyond. EPA currently estimates, based on investments in equipment already made due to EPA's programs through 2001, that organizations and consumers across the country will net savings of more than $60 billion through 2010 and greenhouse gas emissions will be reduced by more than 450 MMTCE through 2010 (cumulative reductions based on estimated 2001 achievements). These programs continue to be highly cost-effective approaches for delivering environmental benefits across the country. For every dollar EPA has spent on its technology deployment programs, these programs have reduced greenhouse gas emissions by more than 1.0 metric ton of carbon equivalent (3.67 tons of CO_2) and delivered more than $75 in energy bill savings based on cumulative reductions since 1995.

APG 39		Planned	Actual
FY 2001	**Assess the consequences of global change (particularly climate change and climate variability) on human health and ecosystems. Goal Met.**		
	Performance Measures		
	- Peer-reviewed reports for decision-makers and the public on the potential consequences of global change on three regions and on human health, which are the finished products of a multi-year effort.	**3**	**3**
FY 2000	*Assess the consequences of global climate variability at a regional scale. Goal Met.*		*3*
FY 1999	*Conduct preliminary assessment of consequences of climate change at three geographical locations: (Mid-Atlantic, Gulf Coast, and upper Great Lakes.) Goal Not Met.*		*2*

FY 2001 Result: EPA conducts research under the Global Change Research Act of 1990, which mandates periodic scientific assessments of the consequences of global change. In 1997 the U.S. Global Change Research Program initiated the First National Assessment. The goal of this assessment is to determine the regional and national implications of climate change and variability for the people, environment, and economy of the United States, in the context of other environmental, economic, and social stresses. EPA is focusing on the consequences of global change to human health and ecosystems in the context of how it might affect individual regions. Two Regional Assessments (Mid-Atlantic Regional Assessment and Great Lakes Regional Assessment) and the Human Health Assessment were completed in FY 2001. The Gulf Coast Regional Assessment team will complete an additional overview document by mid-FY 2002.

Over the past few years, people in the Great Lakes Region have experienced what the Regional Assessment report says might be more common conditions in the future: warmer temperatures and increased evaporation have caused water levels to drop, causing serious problems for the commercial shipping industry and recreational boaters. In addition, sea level has been rising 1 to 2 inches per decade

along the Mid-Atlantic coastline. Climate change will likely double that rate, causing sea level to rise 15 to 40 inches during this century, according to the Mid-Atlantic Assessment report. Sea-level rise threatens beaches, beach properties, wetlands, and barrier islands that help shield the mainland from the impacts of storm surges.

APG 40		Planned	Actual
FY 2001	**Assist 10 to 12 developing countries with economies in transition in developing strategies and actions for reducing emissions of greenhouse gases and enhancing carbon sequestration. Goal Met.**	**10**	**10**
FY 2000	*Assist 10 to 12 developing countries with economies in transition in developing strategies and actions for reducing emissions of greenhouse gases and enhancing carbon sequestration. Goal Met.*		*10*

FY 2001 Result: EPA supported the development of rigorous bottom-up greenhouse gas inventories in four regions of Russia and in Kazakhstan, including energy fuel balances and national estimates of selected sources such as coal mining. EPA projects in the countries of the former Soviet Union have reduced greenhouse gas emissions by more than 1 MMTCE in the past 5 years. EPA's Integrated Environmental Strategies Program, with cooperation from USAID, assisted eight developing countries in evaluating the environmental and human health benefits of technologies and policies for reducing greenhouse gas emissions. Four of these countries produced initial evaluations and implementation plans for multiple benefit strategies.

APG 41		Planned	Actual
FY 2001	**Demonstrate technology for a 80 mpg mid-size family sedan that has low emissions and is safe, practical, and affordable. Goal Met.**	**80**	**80**
FY 2000	*Demonstrate technology for a 70 mpg mid-size family sedan that has low emissions and is safe, practical, and affordable. Goal Met.*		*72*

FY 2001 Result: The Partnership for a New Generation of Vehicles program is working to advance vehicle engine and powertrain technology to improve fuel efficiency and reduce greenhouse gas emissions in future vehicles. During FY 2001 EPA successfully demonstrated technology for an 80-mpg mid-size family sedan with low emissions. As a result of this success, Ford Motor Company and EPA jointly announced in October 2001 a significant cooperative effort whereby Ford will invest in further developing EPA-invented technology with the goal of commercializing it.

APG 42		Planned	Actual
FY 2001	**Greenhouse gas (GHG) emissions will be reduced from projected levels by approximately 66 million metric tons of carbon equivalent (MMTCE) per year through EPA partnerships with businesses, schools, state and local governments, and other organizations thereby offsetting growth in greenhouse gas emissions above 1990 level by about 20%. Data Lag.**	**66**	**data available in FY 2002**
FY 2000	*GHG emissions will be reduced from projected levels by more than 58 MMTCE per year through EPA partnerships with businesses, schools, state and local governments, and other organizations thereby offsetting growth in GHG emissions above 1990 levels by about 20%. Goal Met.*	*58*	*59.3*
FY 1999	*Reduce U.S. GHG emissions by 35 MMTCE per year through partnerships with businesses, schools, state and local governments, and other organizations. Goal Met.*		*46*

FY 2001 Result: The data for this annual performance goal will not be finalized until mid-2002. EPA is on track to meet its greenhouse gas emissions reduction target of 66 MMTCE for FY 2001.

FY 2000 Result Available in FY 2001: The earth's climate is predicted to change because human activities are altering the chemical composition of the atmosphere through the buildup of greenhouse gases—primarily carbon dioxide, methane, and nitrous oxide. EPA partnerships such as the ENERGY STAR program, Industrial Efficiency and Waste Management programs, Industrial Methane Outreach program, and Transportation programs have resulted in a reduction of 59.3 MMTCE from 1990 projected levels of FY 2000 greenhouse gas emissions. Although total U.S. greenhouse gas emissions rose in FY 2000, EPA partnerships have achieved a 20% reduction in expected growth from 1990 levels, thus reducing the United States' contribution to the problem of global climate change. More information is available at http://www.epa.gov/globalwarming/.

APG 43		Planned	Actual
FY 2001	**Reduce energy consumption from projected levels by more than 75 billion kilowatt hours, contributing to over $9 billion in energy savings to consumers and businesses. Data Lag.**	**75**	**data available in FY 2002**

FY 2000	*Reduce energy consumption from projected levels by about 60 billion kilowatt hours, resulting in over $8 billion in energy savings to consumers and businesses that participate in EPA's climate change programs. Goal Met.*	*60*	*74*

FFY 2001 Result: The data for this annual performance goal will not be finalized until mid-2002.

FY 2000 Result Available in FY 2001: As a result of EPA's climate change programs, products purchased with the ENERGY STAR label during FY 2000 will reduce energy consumption from 1990 projected levels by 74 billion kilowatt-hours over the lifetime of those products. This adds up to more than $8 billion in energy savings to consumers and businesses that participate in EPA's climate change programs. The energy savings target was exceeded because of increased penetration of energy-efficient products due to the successful efforts of the ENERGY STAR program. EPA's efforts to reduce energy consumption result in reduced contributions to global climate change as inexpensively as possible.

APG 44		**Planned**	**Actual**
FY 2001	**In close cooperation with the United States Department of Agriculture, identify and develop specific opportunities to sequester carbon in agricultural soils, forests, other vegetation and commercial products, with collateral benefits for productivity and the environment, with carbon removal potential of up to 25 MMTCE by 2010. Goal Met.**		
	Performance Measures		
	- Infrastructure for carbon sequestration activities developed.	**9/30/01**	**9/30/01**

FY 2001 Result: Carbon can be sequestered through changes in both forestry and agricultural practices, but these actions are not currently well understood or accepted in many sectors of the international environmental community. EPA is working collaboratively with the U.S. Department of Agriculture (USDA) to address the misperceptions regarding carbon sequestration and to ensure that this important mitigation option is developed in an environmentally sound and economically efficient way. During FY 2001 EPA continued to work collaboratively with USDA on domestic pilot programs designed to address issues related to implementation of sequestration projects both domestically and internationally. EPA also continued to enhance its state-of-the-art capability to evaluate the technical and economic potential of carbon sequestration in both the forest and agriculture sectors and conducted key analyses on sequestration policy issues. EPA expects to achieve a carbon removal potential of up to 25 MMTCE by 2010.

APG 45		**Planned**	**Actual**
FY 2001	**Provide analysis, assessment, and reporting support to Administration officials, the Intergovernmental Panel on Climate Change, and the Framework Convention on Climate Change. Goal Met.**		
	Performance Measures		
	- Annual GHG inventory.	**1**	**1**
FY 2000	*Provide analysis, assessment, and reporting support to Administration officials, the Intergovernmental Panel on Climate Change, and the Framework Convention on Climate Change. Goal Met.*		
	Performance Measure		
	- GHG Inventory.		*1*

FY 2001 Result: Greenhouse gas emission reductions estimates were completed for the third National Communication Report to the United Nations' Framework Convention on Climate Change. Updated greenhouse gas inventory estimates were published on schedule, and work has started on a separate transportation sector greenhouse gas report. The following web site reports national greenhouse gas emissions of CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6, as reported to the United Nations Framework Convention on Climate Change by member nations: http://www.epa.gov/globalwarming/emissions/international/inventories.html.

By 2005, Ozone Concentrations in the Stratosphere Will Have Stopped Declining and Slowly Begun the Process of Recovery.

Progress Toward Strategic Objective: The United States is working with the Multilateral Fund established under the Montreal Protocol to dismantle more than two-thirds of developing country CFC production capacity and virtually all of developing country halon production capacity. To date the Fund has reached agreements to eliminate 83% of remaining developing country CFC production and all halon production and has begun to implement those agreements, resulting in significant environmental improvements. The United States has helped to fund 3,500 projects and activities in 124 countries that will eventually eliminate 150,000 metric tons of ozone-depleting substances (ODS). Domestically, in FY 2001 the United States met its commitment to reduce methyl bromide production and import by 50% from the 1991 baseline and listed 31 new alternatives to ODS for use in a variety of applications. Recent actions have focused on reducing those substances in developing countries where projected increases of ODS could cancel out the benefits of U.S. reductions. EPA will know whether it is on track to meet the objective of stopping the decline of ozone concentrations by 2005 when the next international scientific assessment is published in 2002.

APG 46		Planned	Actual
FY 2001	**Provide assistance to at least 75 developing countries to facilitate emissions reductions toward achieving the requirements of the Montreal Protocol. Goal Met.**	**75**	**76**
FY 2000	*Provide assistance to at least 50 developing countries to facilitate emissions reductions toward achieving the requirements of the Montreal Protocol. Goal Met.*		*50*

FY 2001 Result: Overexposure to ultraviolet (UV) radiation due to ozone depletion can cause a range of health effects, including skin damage (skin cancers and premature aging), eye damage (including cataracts), and suppression of the immune system in humans. Reductions in emissions of ODS slows the decline of stratospheric ozone concentrations. The United States provided assistance to 76 developing countries to facilitate reductions in ODS emissions to achieve the requirements of the Montreal Protocol on Substances that Deplete the Ozone Layer. The benefits of reduced stratospheric ozone decline as a result of these reductions will be experienced in the United States as well as in other countries.

APG 47		Planned	Actual
FY 2001	**Restrict domestic consumption of class II hydrochlorofluorocarbons (HCFCs) below 15,240 ozone depletion potential-weighted metric tons (ODP MTs) and restrict domestic exempted production and import of newly produced class I chlorofluorocarbons (CFCs) and halons below 60,000 ODP MTs. Data Lag.**	**<15,240 <60,000**	**data available in FY 2002**
FY 2000	*Restrict domestic consumption of class II HCFCs below 15,240 ODP MTs and restrict domestic exempted production and import of newly produced class I CFCs and halons below 60,000 ODP MTs. Goal Met.*	*<15,240 <60,000*	*13,180 462*
FY 1999	*Ensure that domestic consumption of class II HCFCs will be restricted to below 208,400 MTs and domestic exempted production and import of newly produced class I CFCs and halons will be restricted to below 130,000 MTs. Goal Met.*		*<208,400 <130,000*

FY 2001 Result: The 2001 results will be available after March 15, 2002.

FY 2000 Result Available in FY 2001: The stratospheric ozone layer protects life on earth from harmful UV radiation; a depleted ozone layer allows more UV radiation to reach the earth. The increased levels of UV radiation due to ozone depletion can lead to a greater chance of overexposure to UV radiation and consequent health effects, including skin cancer, cataracts, and other illnesses. During FY 2000, domestic consumption of class II HCFCs was restricted to 13,180 ODP MTs and domestic exempted production and import of newly produced Class I CFCs and halons was brought down to 462 ODP MTs. These targets are maximum allowable quantities established for the United States as obligations under the Montreal Protocol on Substances that Deplete the Ozone Layer. Virtually all U.S. producers and importers of Class I CFCs and halons ceased operation following the January 1996 phaseout. Targets are tracked according to calendar year obligations under the Protocol. For more information about EPA's ozone programs, see http://www.epa.gov/ozone/.

APG 48		Planned	Actual
FY 2001	**Increase the number of children participating in the SunWise School Program by 20%. Goal Met.**	**20%**	**61%**

FY 2001 Result: EPA continues to fulfill its mission to protect human health through its SunWise School Program, which educates children ages 5 to 12 on the risks associated with UV and sun exposure as a result of a depleted stratospheric ozone layer. Through the use of classroom-based, school-based, and community-based components, SunWise seeks to develop sustained sun-safe behaviors in schoolchildren. Learning about sun protection has an immediate and long-term benefit to the public because one serious childhood sunburn can double the chances of developing skin cancer later in life and 80% of one's lifetime exposure to UV occurs before age 18. During FY 2001 SunWise reached more than 9,000 students in 180 schools across the country, a 61% increase in program participation. EPA exceeded its target of 20% because of sustained outreach efforts and outstanding acceptance by schools, teachers, and students. The program has now reached a total of approximately 24,000 students in more than 475 schools. In 2001 students who participated in SunWise reported a 68% increase in knowledge about using sunscreen, a 28.6% increase in wearing hats and shirts in the sun, a 33% improved attitudes about tanning, and a 10% increase in playing in the shade rather than in the sun. The program aims to reach 17,000 schools by 2005.

By 2005, the United States Will Prevent Significant Degradation of the Marine and Polar Environments, Consistent With U.S. Obligations Under Relevant International Agreements.

Progress Toward Strategic Objective: Major progress was made toward this strategic objective when the United States signed the Stockholm Convention on Persistent Organic Pollutants (POPs) in May 2001. Countries signing the convention committed to reduce and/or eliminate the production, use, and/or release of the 12 POPs of greatest concern to the global community and established a mechanism to add further chemicals in the future. Toxics covered by the convention include DDT, PCBs, and dioxins. EPA's goal is to have the United States ratify the agreement by September 2002. EPA was also an active player in achieving the "Declaration of Dakar," which is a statement by representatives of 25 Sub-Saharan African countries presenting a time line for phasing lead additives out of gasoline. EPA education and capacity building efforts led to phaseout of leaded gasoline by the Philippines, Vietnam, and Jakarta, Indonesia, during

FY 2001. Thirty-six countries have already phased out the use of leaded gasoline, and this number will likely rise to 55 countries by 2005. Currently about 78% of all gasoline sold in the world is unleaded, and this percentage will likely exceed 84% by 2005. EPA is on track to achieve this objective.

By 2005, Increase the Application of Cleaner and More Cost-Effective Environmental Practices and Technologies in the United States and Abroad Through International Cooperation.

Progress Toward Strategic Objective: EPA's work to build drinking water treatment and monitoring capacity in Central America in the aftermath of Hurricane Mitch was the most significant accomplishment under this objective during FY 2001. There are currently no internationally accredited drinking water labs in Central America. Consequently, data on drinking water quality in the region is not reliable, which impedes the development of effective programs to reduce the incidence of waterborne diseases. EPA's program to enhance monitoring and surveillance at drinking water labs in the region allowed labs in El Salvador, Nicaragua, and Honduras to begin the accreditation process. This success and the variety of projects described below will allow EPA to meet this objective by 2005.

APG 49		Planned	Actual
FY 2001	**Enhance environmental management and institutional capabilities in priority countries. Goal Met.**		
	Performance Measures		
	- Number of countries or localities (3) that have adopted new or strengthened environmental laws and policies.	**3**	**3**
	- Number of organizations (3) that have increased environmental planning, analysis, and enforcement capabilities.	**3**	**3**
	- Number of organizations (3) that have increased capabilities to generate and analyze environmental data and other information.	**3**	**3**
	- Number of organizations (3) that have increased public outreach and participation.	**3**	**4**
	- Number of targeted sectors (3) that have adopted cleaner production practices.	**3**	**2**
	- Number of cities (3) that have reduced mobile-source based ambient air pollution concentrations.	**3**	**3**
FY 2000	*Deliver 30 international training modules; implement six technical assistance/technology dissemination projects; implement five cooperative policy development projects; and disseminate information products on U.S. environmental technologies and techniques to 2,500 foreign customers. Goal Met.*		*12* *6* *5* *3,100*

FY 2001 Result: International capacity-building programs play a critical role in achieving the Agency's mission. Lack of the necessary managerial, technical, financial, scientific, and/or institutional capabilities has often been the major stumbling block to developing countries' action on behalf of the environment, including progress in addressing global and transboundary environmental problems that directly affect health and the environment in the United States. EPA has worked to build the environmental planning capabilities of organizations in Jordan, Honduras, and Egypt and has worked with an organization in South Africa on improving enforcement capabilities. The Agency completed pollution prevention projects in Egypt, the Philippines, Mexico, Thailand, and China. EPA is working with Thailand's Department of Industrial Works to plan cleaner production projects targeted at the electronics industry and with the Thai Ministry of Science, Technology, and Industry to develop a cleaner production program for the printing industry. Although EPA had hoped to initiate both projects by the end of FY 2001, the Thai Ministry of Science, Technology, and Industry did not provide the data necessary to begin the project prior to FY 2002. January 2002 is now the target date for launching the printing industry project. EPA initiated a program in Bangkok to help municipal automotive fleets reduce their emissions, and the first phase of this project was completed in FY 2001. A vehicle emissions tool designed to help developing countries characterize emissions problems and identify solutions was developed by EPA in FY 2001. Pilot testing using the tool will begin in Santiago, Chile, in November 2001 and in Nairobi, Kenya, in March 2002. EPA's international work has enhanced countries' abilities to protect their own environments as well as the global commons.

FY 2000 Annual Performance Goals (No Longer Reported for FY 2001)

Successfully conclude international negotiations on a global convention on Persistent Organic Pollutants (POPs) reaching agreement on POPs selection criteria, technical assistance, and risk management commitments on specified POPs. (This annual goal is maintained for internal reporting.)

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